JOINT USERS RESOURCE ALLOCATION PLANNING (JURAP) MEETING

June 20, 2002

Jet Propulsion Laboratory
California Institute of Technology

4800 Oak Grove Drive
Pasadena, CA 91109-8099

(818) 354-4321

July 16, 2002
Refer to: 930-02-008-ESB:lc

TO: Distribution

FROM: Eugene S. Burke

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held June 20, 2002.

NEXT JURAP MEETING:

Thursday, July 18, 2002
JPL Bldg. 303, Room 411, at 1:00 p.m.

Meet-Me Line: (818) 354-2626

Attendees:

R. Bartoo	J. Hall	K. Kim	B. Ryan
B. Brymer	E. Hampton	K. Marsh	J. Valencia
D. Doody	D. Hill	G. Martinez	S. Waldherr
K. Gage	J. Kehrbaum	M. Medina	

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts.

Introductory Remarks & Conflict Resolutions – R. Bartoo
R. Bartoo chaired the meeting and welcomed everyone to JURAP. The RAP team began the analysis process in preparation for the upcoming RARB scheduled for August 13. The migration from FASTER to MADB continues with a software upgrade delivery planned for June 30 (an early delivery) that will provide EXCEL output of Viewperiod overlaps and maintenance scheduling of antennas at the Complexes.

RARB Action Items – E. Hampton (for D. Morris)
Action Items 1, 6, and 9 have been closed. Action Items No.2 and 12 remain open. A workshop to discuss Mars Project concerns and to resolve Action Item No. 12 is planned for June 27, 2002, at the Embassy Suites in Pasadena.

Resource Analysis Team – K. Kim
Testing and training of TIGRAS/MADB is ongoing. Special load studies in progress include Lunar-A, MCD3, and Messenger. Major Antenna Downtime re-planning and Mid-Range schedule development is ongoing. Weeks 29-32 were released to the DSN on May 23, 2002. Week 36 will be released June 24, 2002, and Weeks 01-04 2003 will begin negotiations on June 28, 2002.

DSS Downtime Forecast – J. Valencia
There are a number of changes to the DSN Major Antenna Downtime schedule since the May JURAP. The DSS-16 Servo Drive task cannot meet the initial planned downtime schedule in 2002, so is now proposed for June 2003. DSS-25 X-band 20kW proposed antenna downtime was advanced by 6 weeks, from early September to late July, and reduced by 1 week. This will accommodate the Cassini project's request for a minimum of a 5-week buffer from the end of DSS-25 downtime and the start of Cassini's Gravity Wave Experiment planned for late October 2003. The proposed DSS-66 Servo Drive downtime in Weeks 29-34 was moved to Weeks 38-43, to avoid parallel antenna downtime with DSS-54. DSS-65 Antenna Controller Replacement (ACR) downtime was moved from Weeks 20-27 2004, and proposed for Weeks 41-47 2004, to facilitate planning of proposed downtimes for DSS-15 ACR, followed by DSS-14 ACR. The DSS-46 Servo Drive proposed downtime remains unchanged during Weeks 25-30, 2004.

DSN Operations – J. Hodder
No presentation was given at this month's JURAP.

Goldstone Solar System Radar – D.Hills for (M. Slade)
GSSR support between Goldstone and Green Bank in May and June 2002, successfully obtained observations supporting the MESSENGER project goals of refining obliquity of Mercury's pole, and the forced 88-day wobble in longitude. An antenna-pointing anomaly of ~ 0.015 degrees was discovered at DSS-14.

Radio Astronomy / Special Activities – G. Martinez
In June, one Time-Earth-Motion Precision Observation (TEMPO) was supported at DSS-15. Radio Frequency Interference (RFI) emanating from the DSS-14 GSSR observation adversely impacted TEMPO support at DSS-15. The VLBI with GSSR support conflict went unresolved; consequently, 50% of DSS-15 TEMPO support was impacted.

JURAP Science Advisor – E. Smith
No presentation was given at this month's JURAP.

FLIGHT PROJECTS REPORTS

Ulysses – B. Brymer
Spacecraft operations are nominal. The spacecraft is no longer in continuous view from the northern hemisphere and DSN passes have normal rise and set. The spacecraft remains out of view from the southern hemisphere. Spacecraft power and thermal reconfigurations and instrument calibrations are performed as required and spacecraft earth pointing maneuvers are being performed every 4 days.

Galileo – M. Medina (for B. Compton)
Galileo routine activities include propulsion maintenance activities, and gyro performance tests. Significant events include data collection from the Magnetometer, and dust detector instruments during the cruise part of the orbit. The first in a series of tape motions were executed with the objective of conditioning the tape to reduce future hard tape sticks. Future project plans include development and implementation of a strategy to promote long-term operation of the tape recorder.

Stardust - R. Ryan
The spacecraft is healthy and DSN support has generally been good this reporting period. Stardust is presently at 1.92 astronomical units from Earth with a round trip light time of 32 minutes with Earth range decreasing. The spacecraft solar panels, battery and power systems continue to perform normally and the communications period duration remains constrained to 3-hours. New Norcia reported two successful tracks of Stardust in June 2002 as part of its antenna-pointing acceptance testing with good results. Upcoming events include solar opposition, and Interstellar Dust Collection activity in August, TCM 7A in September, and Comet Wild-2 encounter test using Annefrank in November 2002.

Pioneer-10 – R. Ryan
The project manager would like the DSN to support at least one Pioneer track each month.

Chandra – K. Gage
Chandra spacecraft operations and DSN support are nominal this reporting period. The impact on Chandra if DSS-24 downtime was extended to Week 51 was discussed, and a resolution meeting scheduled.

Voyager – J. Hall
Voyager 1 and Voyager 2 operational status is nominal, and overall DSN support is good. Voyager 1 heliocentric distance is 85 astronomical units (AU) with a round trip light time (RTLT) of approximately 23h 20m. Voyager 2 heliocentric distance is 67.4 AU with a RTLT of approximately 18h 26m.

Cassini – D. Doody
The spacecraft remains in Quiet Cruise Sub-phase for another few weeks, ending July 08, at which time the Space Science Sub-phase will start. Radio Science Superior Conjunction experiment is in progress and it is Cassini's second prime mission science activity. This experiment will test General Relativity with sensitivity 100 times greater than previous experiments. The DSS-25 Ka-band transmitter, crucial to the Radio Science experiment, has experienced heat exchanger problems. The Cassini Network Operations Support Plan (NOP) document has not yet been delivered by CSOC. Beginning fiscal year 2003, Cassini must purchase voice and data communication services at a cost of approximately $530K per year.

ISTP, WIND, POLAR, SOHO, GEOTAIL, Cluster II – A. Chang
No presentation was given at this month's JURAP.

MAP, ACE, IMAGE, and Genesis – S. Waldherr
MAP, ACE, and IMAGE spacecraft operations are essentially nominal with no DSN ground support problems reported.

Mars Global Surveyor – E. Brower
No presentation was given at this month's JURAP, but back-up material is attached.

Our next JURAP meeting will be held:

Thursday, *July 18, 2002*,
in Conference room 303-411,
at 1:00 p.m.

<<< Meet-Me Line: (818) 354-2626 >>>

ACE
Afkhami, F. . . . . GSFC m/s 428.2
Sodano, R. J. . . . . GSFC m/s 581.0

Canberra Deep Space Communications Complex
Churchill, P. . . . . CDSCC
Jacobsen, R. . . . . CDSCC
O'Brien, J. J. . . . . CDSCC
Ricardo, L. . . . . CDSCC
Robinson, A. . . . . CDSCC
Wiley, B. . . . . CDSCC

Cassini
Arroyo, B. 264-235
Chin, G. E 230-310
Doody, D. F. 230-310
Frautnick, J. C. 230-301
Gustavson, R. P. 230-301
Maize, E. H. 230-104
Mitchell, R. T. (PM) 230-205
Webster, J. L. 230-104

Chandra
Bucher, S. . . . . SAO
Gage, K. R. . . . . SAO
Lavoie, A. R. (PM) . . . . . MSFC Org. FD03
Marsh, K. . . . . SAO
Weisskopf, M. C. (PS) . . . . . MSFC Org. SD50
Wicker, D. . . . . SAO
Wright, G. M. . . . . MSFC Org. FD03

Comet Nucleus Tour (CONTOUR)
Arroyo, B. 264-235
Chiu, M. C. (PM) . . . . . APL 23-208
Farquhar, R. . . . . APL 2-155
Holdridge, M. . . . . APL 13N-319

Dawn
Arroyo, B. 264-235
Gavit, S. A. (PM) 264-426

Deep Impact
Arroyo, B. 264-235
Blume, W. H. 301-180
McKinney, J. C. 301-350
Muirhead, B. K. (PM) 301-350

DSN VLBI Clock Synch & Catalog M&E
Cangahuala, L. A. 303-125J
Jacobs, C. S. 238-600
Patterson, J. E. 238-638

Europa
Arroyo, B. 264-235
McNamee, J.B. (PM) 301-335
Simpson, K.A. 301-335

Galileo
Compton, B. 230-102
Huynh, J. C. 230-102
Medina-Gussie, M. 301-371
Pojman, J. L. 238-538
Theilig, E. E. (PM) 264-525

Genesis
Arroyo, B. 264-235
Burnett, D. S. . . . . CIT 170-25
Hirst, E. A. 264-570
Sasaki, C. N. (PM) 264-370
Sweetnam, D. N. 264-370
Tay, P. 264-235
Yetter, K. E. 264-235

Goldstone Deep Space Communications Complex
Holmgren, E. DSCC-25
Massey, K. DSCC-61
McCoy, J. DSCC-57
Millmore, D. DSCC-37

Goldstone Orbital Debris Radar (GODR)
Goldstein, R. M. (PM) 300-227
Wolken, P. R. 507-105

Goldstone Solar System Radar (GSSR)
Haldemann, A. F. 238-420
Hills, D. L. 238-420
Ostro, S. J. (PS) 300-233
Slade, III, M. A. (PM) 238-420
Wolken, P. R. 507-105

Gravity Probe-B
Arroyo, B. 264-235
Keiser, M. (PS) . . . . . Stanford Univ.
Shapiro, Prof. I. I. . . . . Smithsonian Astrophys. Obsrv.

IMAGE
Abramo, C. A. 507-120
Burley, R. J. . . . . GSFC m/s 632.0
Green, J. L. . . . . GSFC m/s 630

INTEGRAL
Arroyo, B. 264-235
Clausen, K. (PM) . . . . . ESA/ESTEC
Maldari, P. . . . . ESA/ESOC

IND / General
Doms, P. E. 303-400
Polansky, R. G. 303-400
Stelzried, C. T. 303-407
Weber, III, W.J. 303-400

IND / DSMS Engineering
Freiley, A. J. 303-404
Kimball, K. R. 303-404
Klose, J. C. 303-404
Kurtik, S. C. 303-210
Osman, J. W. 303-210
Sible, Jr., R. W. 303-404
Statman, J. I. 303-404

IND / DSMS Operations

Almassy, W. T. 502-420
Berman, A. L. 303-403
Covate, J. T. 507-120
Dillard, D. E. 507-120
Frazier, R. 507-120
Gillam, I. T. 502-400
Green, J. C. 507-120
Hodder, J. A. 303-403
Knight, A. G. 507-120
Landon, A. J. 507-105
Martinez, G. 507-120
Nevarez, R. E. 502-400
Recce, D. J. 303-403
Roberts, J. P. 502-400
Salazar, A. J. 303-403
Schroeder, H. B. 507-120
Short, A. B. 507-120
Wackley, J. A. 303-403
Watzig, G. A. 502-420
Wert, M. 502-420

IND DSMS Plans & Commitments

Abraham, D. S. 303-402
Altunin, V. I. 303-402
Bathker, D. A. 303-402
Benson, R. D. 303-402
Beyer, P. E. 303-402
Black, C. A. 303-402
Cesarone, R. J. 303-402
Chang, A. F. 303-402
Gillette, R. L. 303-402
Holmes, D. P. 303-402
Kwok, A. 303-402
Luers, E. B. 303-402
Miller, R. B. 303-402
Moyd, K. 303-402
Peng, T. K. 303-402
Poon, P. T. 303-402
Slusser, R. A. 303-402
Waldherr, S. 303-402
Yetter, B. G. 303-402

IND / DSMS RAPSO

Bartoo, R. H. 303-403
Borden, C. S. 301-165
Burke, E. S. 303-403
Hampton, E. 504-102
Kehrbaum, J. M. 301-145J
Kim, K. 504-102
Lacey, N. 504-102
Lineaweaver, S. 504-102
Martinez, K. A. 504-102
Morris, D. G. 303-403
Valencia, J. 504-102
Wang, Y-F. 301-165
Zendejas, S. C. 301-165

ISTP (Cluster II)

Abramo, C. A. 507-120
Christensen, J. L. . . . . GSFC m/s 404.0
Dutilly, R. N. . . . . GSFC m/s 581.1
Gurnett, D. . . . . U. of Iowa
Mahmot, R. E. (PM) . . . . . GSFC m/s 444.0
Pickett, J. . . . . U. of Iowa

ISTP (GEOTAIL/POLAR/SOHO/WIND)

Abramo, C. A. 507-120
Alexander, H. 502-320
Bush, R. I. . . . . Stanford Univ.
Carder, M. E. . . . . GSFC 450.C
Dutilly, R. N. . . . . GSFC m/s 581.1
Giles, B. L. . . . . GSFC m/s 692.0
Hearn, S. P. . . . . GSFC m/s 450.C
Mahmot, R. E. . . . . GSFC m/s 444.0
Machado, M. J. . . . . GSFC m/s 428.2
Milasuk-Ross, J. . . . . GSFC m/s 428.5
Miller, K. A. . . . . GSFC m/s 450.C
Nace, E. M. . . . . GSFC m/s 450.8
Odendahl, S. K. . . . . GSFC m/s 581.0

JPL/General

Burgess, L. N 230-107
Burton, M. E. 169-506
Finley, S. G. 11-116
Gershman, R. 264-440
Holladay, J. A. 303-404
Jurgens, R. F. 238-420
Kahn, P. B. 301-486
Kliore, A. J. 161-260
Kobrick, M. 300-233
McClure, J. R. 264-235
Moore, W. V. 161-260
Morabito, D. D. 161-260
Naudet, C. J. 238-600
Robbins, P. E. 161-260
Silva, A. 149-200
Smith, J. L. 301-180
Taylor, A. H. 264-538
Toyoshima, B. 301-276
Williams, B. G. 301-125J
Winterhalter, D. 169-506
Woo, H. W. 126-110
Yung, C. S. 238-808

Lunar A

Arroyo, B. 264-235
Ryne, M.S. 301-276

Madrid Deep Space Communications Complex

Gimeno, J. . . . . MDSCC
Gonzalez, C. . . . . MDSCC
Martin, A. . . . . MDSCC
Rosich, A. . . . . MDSCC

MAP

Abramo, C. A. 507-120
Coyle, S. E. . . . . GSFC m/s 581.0
Dew, H. C. . . . . GSFC m/s 423.0
Mahmot, R. E. (PM) . . . . . GSFC m/s 444.0

Mars Exploration Rover (MER A & B)
Adler, M. T1723
Arroyo, B. 264-235
Crisp, J. A. (PS) 241-105
Erickson, J. K. T1723
Ludwinski, J.M. T1722
Roncoli, R. B. 301-140L
Theisinger, P. C. (PM) T1722

Mars Express Orbiter
Arroyo, B. 264-235
Horttor, R. L. (PM) 238-540
Thompson, T. W. 300-227

Mars Global Surveyor
Albee, A. (PS) 264-282
Arroyo, B. 264-235
Brower, E. E. 264-235
Thorpe, T. E. (PM) 264-214
Yetter, K. E. 264-235

Mars Program Office
Cutts, J. A. 264-426
Jordan, Jr., J. F. 264-472
McCleese, D. J. 264-426
Naderi, F. M. 264-438
Whetsel, C. 264-426

Mars Reconnaissance Orbiter Project
Arroyo, B. 264-235
Graf, J. E. (PM) 264-440
Johnston, M. D. 301-140L
Lock, R. E. 301-140L

Mars 2001 Odyssey Mission
Arroyo, B. 264-235
Gibbs, R.G. 264-255
Harris, J. A. 301-455
Landano, M. R. (PM) 264-725
Mase, R. A. 264-380
Saunders, R. S. (PS) 180-701
Spencer, D. A. 264-255

MEGA
Altunin, V. I. 303-402
Smith, J. G. (PM) 264-828

MESSENGER
Arroyo, B. 264-235
Farquhar, R. (PM) . . . . . APL 2-155
Peterson, M. . . . . APL 4-246

Muses-C
Arroyo, B. 264-235
Mottinger, N. A. 301-125J
Smith, J.G (PM) 264-828

NASA Headquarters
Costrell, J. A. . . . . Code MT
Geldzahler, B. . . . . Code SR
Hertz, P. . . . . Code SR
Holmes, C. P. . . . . Code SR
Spearing, R. E. . . . . Code M-3

NASA/ARC/General
Campo, R. A. . . . . ARC 244-14

NASA/GSFC/General
Barbehenn, G. M. . . . . GSFC m/s 440.8
Levine, A. J. . . . . GSFC m/s 452.0
Martin, J. B. . . . . GSFC m/s 451.0

NASA/SOMO
Dowen, A. Z. 303-400
Hall, V. F. . . . . JSC Code TG
Morse, G. A. . . . . JSC Code TA
Thompson, E. W. . . . . JSC Code GA

NOZOMI (Planet B)
Arroyo, B. 264-235
Ryne, M. S. 301-276
Tay, P. 264-235
Yetter, K. E. 264-235

PFPD / Mission Management Office
Morris, R. B. 264-235
Varghese, P. 264-235

Radio Astronomy
Klein, M. J. (PM) 303-402
Kuiper, T. B. (PS) 169-506
Martinez, G. 507-120
Wolken, P. R. 507-105

Reference Frame Calibration
Altunin, V. I. 303-402
Cangahuala, A. (PM) 301-125J
Jacobs, C. 238-600

Rosetta (ROSE)
Alexander, C. J. (PM) 169-237
Arroyo, B. 264-235
Ellwood, J. (PM) . . . . . ESA/ESTEC
Schwehm, G. H. (PS) . . . . . ESA/ESTEC
Warhaut, M. . . . . ESA/ESOC

Space Geodesy
Wolken, P. R. 507-105

Space Infrared Telescope Facility (SIRTF)
Arroyo, B. 264-235
Gallagher, D. B. (PM) 264-767
Kwok, J. H. 264-767

ST-5
Bibyk, I. . . . . GSFC m/s 581.0
Carlisle, C. . . . . GSFC m/s 532.0
McLennan, Dr. D. D. (PM) . . . . . GSFC m/s 495.0
Slavin, J. A. (PS) . . . . . GSFC m/s 696.0

Stardust
Arroyo, B. 264-235
Duxbury, T. C. (PM) 264-379
Hirst, E. 264-570
Ryan, R. E. 301-285
Tay, P. 264-235
Yetter, K. E. 264-235

Ulysses / Voyager

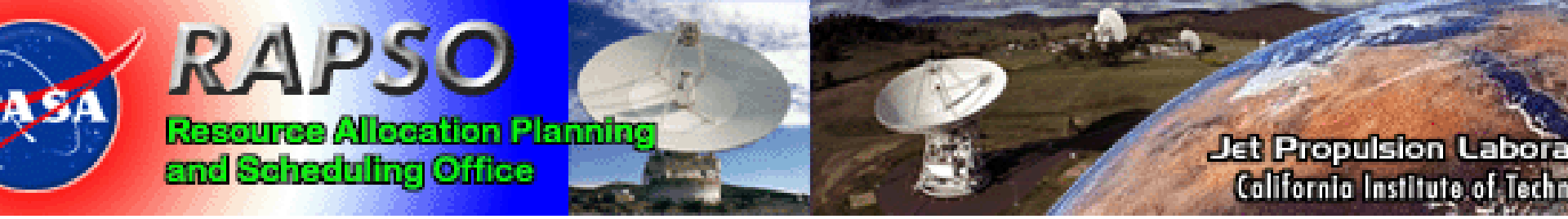
Arroyo, B. 264-235
Brymer, B. F. 264-114
Cummings, A. C. . . . . CIT 220-47
Hall, Jr., J. C. 264-801
Massey, E. B. (PM) 264-801
Medina-Gussie, M. 301-225
Nash, J. C. 264-114
Smith, E. J. (PS - ULS) 169-506
Stone, E.C. (PS - VGR) . . . . . CIT 220-47
Yetter, K. E. 264-235

Other Organizations

Crimi, G. F. . . . . SAIC
Laemmel, G. . . . . DLR-GSOC
Wanke, H. . . . . DLR-GSOC

Please mark any additions, deletions, or corrections to this distribution list and return to:

David G. Morris
Jet Propulsion Laboratory
4800 Oak Grove Drive, 303-403
Pasadena, CA 91109 / 818-393-3535
email: David.G.Morris@jpl.nasa.gov



JOINT USERS RESOURCE ALLOCATION PLANNING (JURAP)

Action Item Status From 12 February 2002 RARB

(Resource Allocation Review Board)

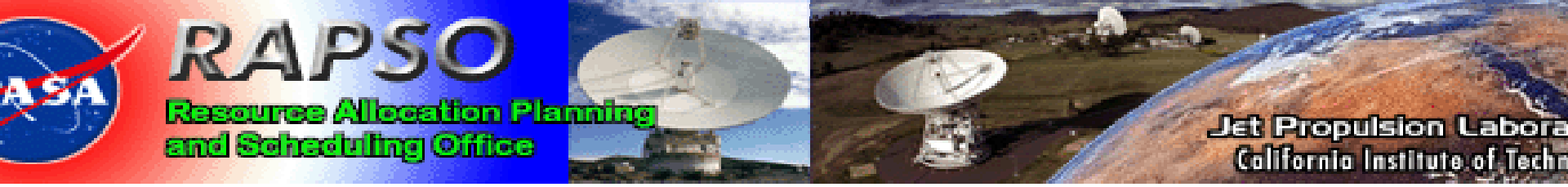
David G. Morris

June 20, 2002

Action Item Status

Since Last JURAP:

- Action Item 1, 6 and 9 Were Closed
  - #1 (MER Landing Site Selection)
    - Due to environmental analysis of the leading candidate landing site regions; MER is initiating a search for new landing sites.
    - "The landing site selection strategy now calls for a selection as late as June 2003. … MER must have the flexibility to arrive over any DSN complex until that selection is made, and any surface planning must take into account the uncertainty in view periods."
  - #6 (MER-A and Mars Odyssey 70M Oversubscription)
    - MER-A has reduced requirements on the 70M subnet in this period.
  - #9 (MER-B and MER-A Critical TCMs)
    - MER-B has reduced their support in these weeks.
- Action Items 2 and 12 remain open pending a June 27 Workshop on 2003 - 2004 Scheduling Issues



Action Item Summary

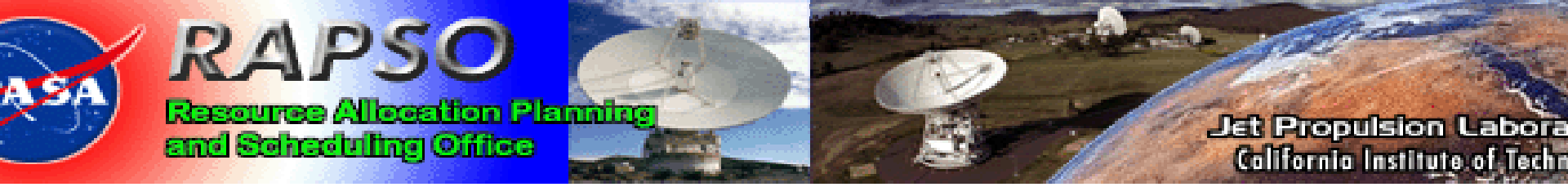
AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
1	**2004**	**January**	**MER**	**J. Erickson**	**6/1/2002**	**Closed**

ACTION: Provide Final Landing Site coordinates (SPK file) for both Rovers one year prior to launch. (Reference A.I. #7 of August 13, 2001 RARB)

RESPONSE: (6/4/2002) Due to environmental analysis of the leading candidate landing site regions; MER is initiating a search for potential new, safe, candidate landing sites. "The landing site selection strategy now calls for a selection as late as June 2003. … MER must have the flexibility to arrive over any DSN complex until that selection is made, and any surface planning must take into account the uncertainty in view periods."

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
02	**2003**	**Jan-Dec**	**DSMS P & C**	**R. Miller**	**4/18/2002**	**Open**

ACTION: Investigate and Negotiate the feasibility of alternate assets providing current DSN Catalog Maintenance and Enhancement (CAT M&E) radio sources.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
03	**2003**	**January-December**	**SGP**	**N. Lacey** **P. Wolken**	**4/18/2002**	**Closed**

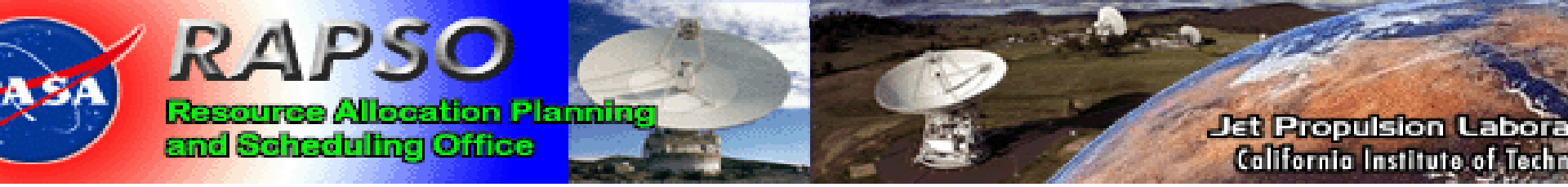
ACTION: As a result of recommending deletion of the entire 2003 request of Space Geodesy Program, provide a listing of opportunities to the Project to assist in their re-planning a reduced (hours) experiment.

RESPONSE: (4/16/02) The deletion of the 34H Antenna Controller Replacement tasks in 2003 has created 24-hour support opportunities for SGP as follows:

DSS-15: Weeks 14, 15, 16, 17 and 18 (April 2 through May 6).

DSS-45: Weeks 37, 38, 39, 40, 41, 42 and 43 (September 10 through October 28).

DSS-65: Weeks 37, 38, 39, 40, 41, 42 and 43 (September 10 through October 28).

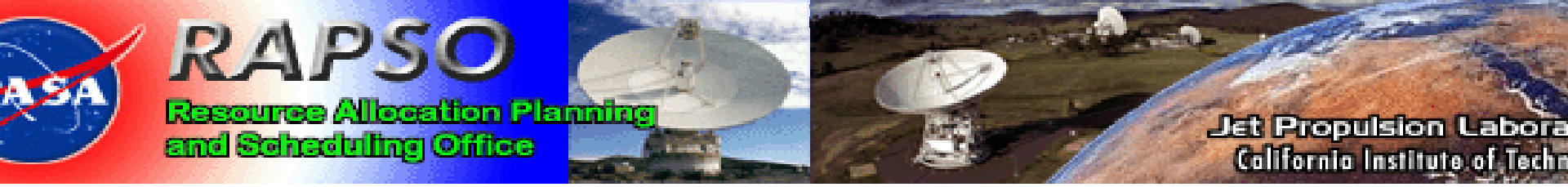


Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
04	**2003**	**January**	**SIRTF**	**P. Beyer**	**4/1/2002**	**Closed**

ACTION: Perform telecom analysis to determine the adequacy of DSS-63 supporting spacecraft on day of launch. The expressed concern is that the DSS-63 X-band transmitter may saturate the SIRTF receiver. (DSS-65 has Downtime; DSS-54 is supporting Cassini GWE.)

RESPONSE: (4/4/02) Using 200 Watts from DSS-63, the P_{total} into the Observatory will be -78 to -80 dBM. This should pose no risk to the spacecraft. HOWEVER, if the trajectory is the slightest bit off nominal, it is not good engineering practice to do a search with the 70m beamwidth. The 34m antenna is much more desirable for contingency purposes, and SIRTF should have priority use of DSS-54.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
05	**2003**	**January-April**	**DSN**	**M. Wert**	**4/1/2002**	**Closed**

ACTION: Investigate the impact to Operations of deleting or reducing the 70m Antenna Calibrations in this period.

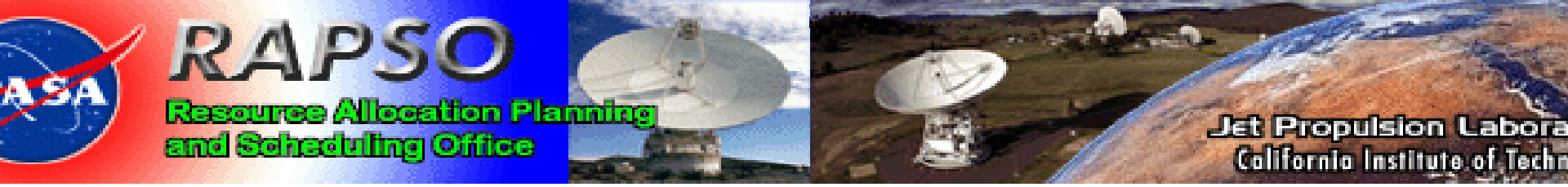
RESPONSE: (4/10/02) Minimum support has been analyzed and is provided:

1. GDSCC -- DSS14 can support forecast load if two 4-hour calibration blocks per month are provided Jan-Apr '03;
2. CDSCC -- DSS-43 can support at one 4-hour calibration block per month during Jan-Apr '03;
3. MDSCC -- DSS-63 can support at one 4-hour calibration block per month during Jan-Apr '03.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
6	**2003**	**November**	**MER-A,Odyssey**	**J. Erickson**	**5/1/2002**	**Closed**

ACTION: MER-A agreed to modify DSN requests for Odyssey and MGS to fulfill required support in Weeks 46-47 in November 2003.

RESPONSE: (6/4/02) MER-A has reduced requirements on the 70M subnet in this period.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
07	**2003-2004**	**December-February**	**Mars Program**	**C. Whetsel**	**5/1/2002**	**Closed**

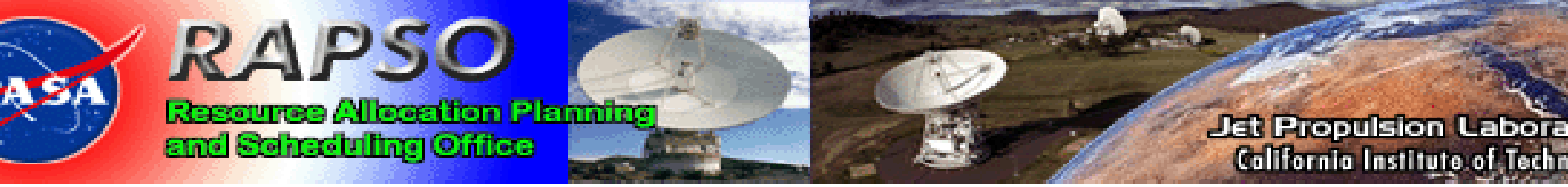
ACTION: Mars Program will evaluate support problems during the mid-December 2003 through end of February 2004 timeframe. All NASA and non-NASA Mars missions requirements will be evaluated and coordinated in light of the NASA Mars mission priorities and provided in time to be addressed at the August 2002 RARB.

RESPONSE: (4/26//02) Weekly priorities were established for all Mars Missions for this period.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
08	**2004**	**January**	**Cassini**	**B. Mitchell**	**5/1/2002**	**Closed**

ACTION: Cassini, based upon the recommendations of taking daily 1-4 hour gaps during the Canberra/Madrid overlap in January 2004, will evaluate impact to GWE. In addition, evaluate sliding the entire 40 days for the GWE earlier by a few weeks.

RESPONSE: (5/14/02) Cassini will move the GWE to begin October 20, 2003 through November 29, 2003.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
09	**2004**	**January**	**MER-B**	**J. Erickson**	**4/18/2002**	**Closed**

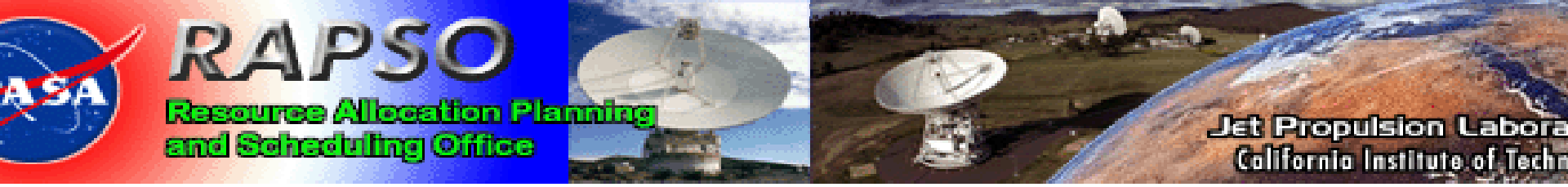
ACTION: Mars Exploration Rover Project will evaluate whether MER-B can reduce coverage during critical MER-A TCMs (4, 5, and 6) in order that the support is used for a MER-A required hot-backup 34m antenna.

RESPONSE: (6/4/02) MER-B has reduced support in week 52 from 21 to 18 passes per week. This should provide the requested reduction.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
10	**2004**	**January**	**DSN**	**C. Jacobs**	**4/18/2002**	**Closed**

ACTION: Provide analysis of impact (e.g., to MER-B landing accuracy) of moving DSN Clock Sync VLBI out to Week 4.

RESPONSE: (5/1/02) Provided a prioritized alternative support decision tree to assist scheduling of DSN Clock Sync and Catalog M&E activates in order to maintain minimum support.



Action Item Summary

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
11	**2004**	**January**	**MER**	**J. Ludwinski**	**2/26/2002**	**Closed**

ACTION: Provide MER Project Surface Operations Viewperiods for the four primary and two alternate landing sites to RAPSO (J. Kehrbaum).

RESPONSE: Complete set of viewperiods were provided 8 March 2002.

AI#	*Year*	*Month(s)*	*System*	*Responsible*	*Due Date*	*Status*
12	**2003-2004**	**November-February**	**DSMS P & C**	**R. Miller**	**5/1/2002**	**Open**

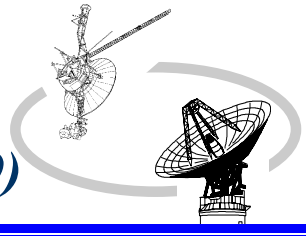
ACTION: Identify Risk Posture for individual mission's key events to plan steps the DSN can do to mitigate foreseeable anomalies (e.g., spacecraft emergency, station outages, MCD3 contention, etc.).

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

Resource Analysis Team

June 20, 2002

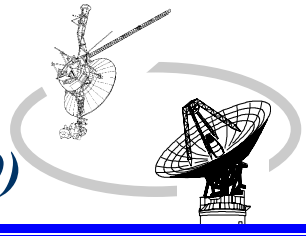
Kevin Kim



◆ RESOURCE NEGOTIATION STATUS

- 2002 WEEKS 29 – 32 (THRU 08/11/2002) WAS RELEASED TO DSN ON 05/23/2002
- 2002 WEEK 36 (THRU 09/08/2002) IS DUE TO BE RELEASED ON 06/24/2002
- 2003 WEEKS 01 – 04 (THRU 01/26/2003) WILL GO INTO NEGOTIATIONS STARTING 06/28/2002

- **SPECIAL STUDIES/ACTIVITIES**
  - INTEGRAL LAUNCH CHANGE
- **ON-GOING ACTIVITIES**
  - MADB/TIGRAS TESTING AND TRAINING
  - DOWNTIME REPLANNING
  - LUNAR-A LOAD STUDY
  - MCD3 STUDY
  - MESSENGER LOAD STUDY



- **RARB – AUGUST 13, 2002**
  - CONTENTIONS TO COVER YEARS 2003 THRU 2005
  - REQUIREMENTS / EVENTS DATABASE UPDATE COMPLETE
  - ANALYSIS STARTED

HTTP://RAPWEB.JPL.NASA.GOV

Major DSN Antenna Downtime Status

Jose Valencia
June 20, 2002

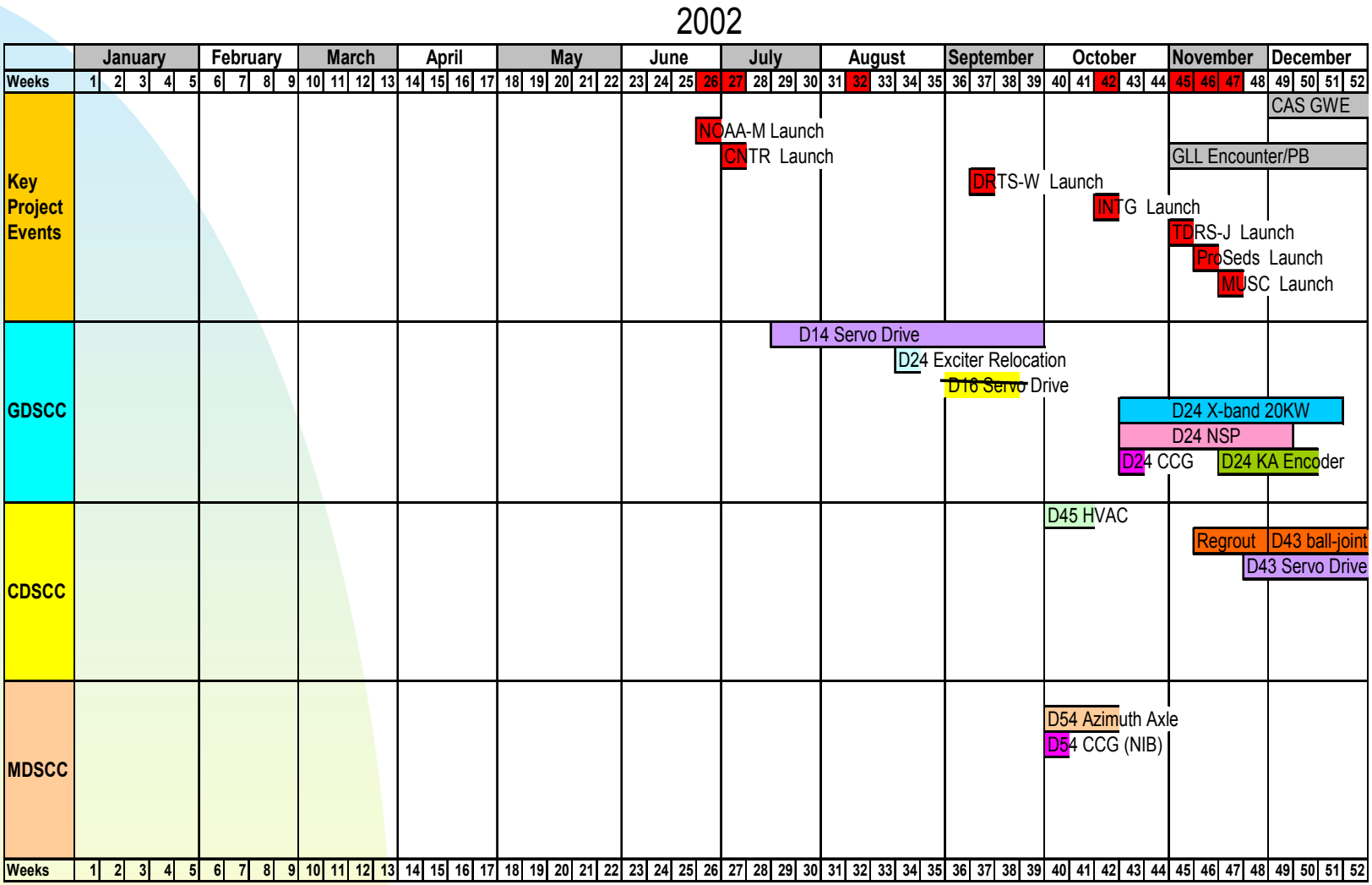
Major Antenna Downtimes

MAJOR DSN DOWNTIMES by SITE by Year								
Year	Site	Description	Start	End	Duration (Days)	Weeks	Start DOY	End DOY
2002	DSS 14	70M Servo Drive Replacement	07/15/02	09/27/02	75	29-39	196	270
2002	DSS 24	NIB - NSP Implementation	10/21/02	12/02/02	43	43-49	294	336
2002	DSS 24	20 KW X-Band TXR Installation	10/21/02	12/22/02	63	43-51	294	356
2002	DSS 24	NIB - KA-Band Encoder Mech Mod-Kit Installation	10/21/02	11/09/02	20	43-45	294	313
2002	DSS 24	NIB - CCG Task	10/21/02	10/27/02	7	43-43	294	300
2002	DSS 24	Exciter Relocation	08/21/02	08/25/02	5	34-34	233	237
2002	DSS 43	70M Servo Drive Replacement	11/25/02	02/09/03	77	48-06	329	040
2002	DSS 43	NIB - Ball-Joint Pad Refurbishment	11/25/02	02/09/03	77	48-06	329	040
2002	DSS 43	Hydrostatic Bearing Regrout	11/17/02	11/24/02	8	46-47	321	328
2002	DSS 45	DSS 45 HVAC Upgrade	10/01/02	10/08/02	8	40-41	274	281
2002	DSS 54	NIB - KA Band Encoder Mech Mod Kit Installation	10/01/02	10/20/02	20	40-42	274	293
2002	DSS 54	Azimuth Axle Replacement	10/01/02	10/20/02	20	40-42	274	293
2002	DSS 54	NIB - CCG task	10/01/02	10/07/02	7	40-41	274	280
2003	DSS 14	NSP Implementation	04/21/03	05/12/03	22	17-20	111	132
2003	DSS 15	NSP Implementation	03/10/03	04/09/03	31	11-15	069	099
2003	DSS 25	NSP Implementation	02/10/03	03/09/03	28	07-10	041	068
2003	DSS 34	NSP Implementation	02/10/03	04/06/03	56	07-14	041	096
2003	DSS 34	NIB - 20 KW X-Band TXR Installation	02/10/03	04/06/03	56	07-14	041	096
2003	DSS 34	NIB - KA-Band Encoder Mech Mod-Kit Installation	02/10/03	03/02/03	21	07-09	041	061
2003	DSS 34	NIB - Azimuth Axle Replacement	02/10/03	03/02/03	21	07-09	041	061
2003	DSS 34	NIB - CCG Task	02/10/03	02/16/03	7	07-07	041	047
2003	DSS 43	NIB - NSP Implementation	01/02/03	02/09/03	39	01-06	002	040
2003	DSS 45	NSP Implementation	04/07/03	05/02/03	26	15-18	097	122
2003	DSS 54	20 KW X-Band TXR Installation	07/21/03	08/31/03	42	30-35	202	243
2003	DSS 54	NSP Implementation	04/21/03	05/12/03	22	17-20	111	132
2003	DSS 63	70M Servo Drive Replacement	02/10/03	04/20/03	70	07-16	041	110
2003	DSS 63	NIB - Ball-Joint Pad Refurbishment	02/10/03	04/20/03	70	07-16	041	110
2003	DSS 63	NIB - NSP Implementation	02/10/03	04/06/03	56	07-14	041	096
2003	DSS 65	NSP Implementation	01/07/03	02/09/03	34	02-06	007	040
2004	DSS 14	Antenna Controller Replacement	07/05/04	10/03/04	91	28-40	187	277

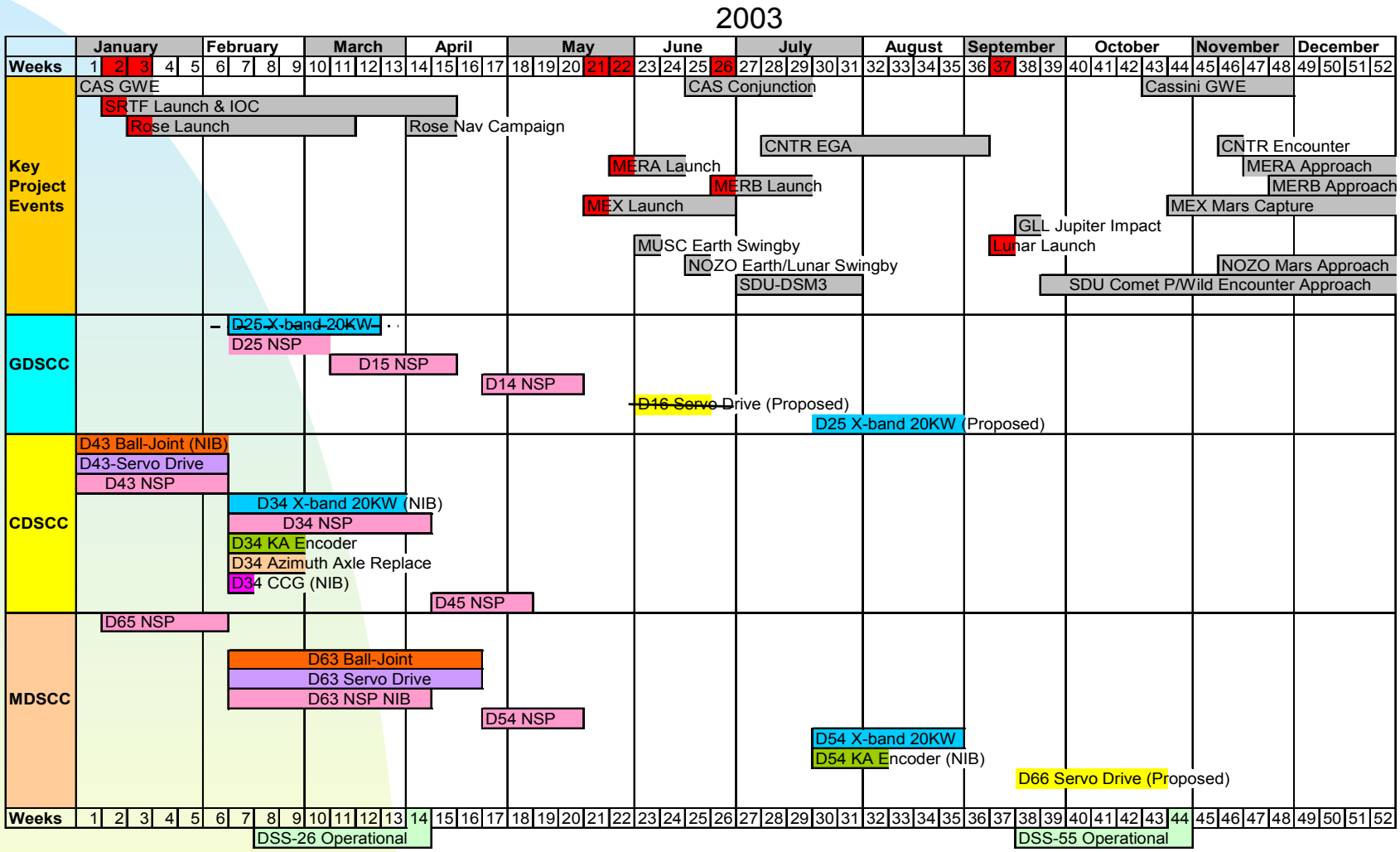
CHANGES TO ANTENNA DOWNTIME SCHEDULE SINCE MAY JURAP

- DSS-16 Servo Drive was deleted from 2002 and proposed for June 2003
- DSS-25 proposed X-Band 20Kw downtime was advanced by 5-Weeks to begin in Week 32, 2003 to accommodate CASSINI GWE in Weeks 43-48
- DSS-66 proposed Servo Drive downtime was moved from Weeks 29-34 to Weeks 38-43, 2003 to avoid MARS high activity in November December 2003
- DSS-65 Antenna Controller Replacement deleted from 2004 and proposed for Weeks 41-47, 2004

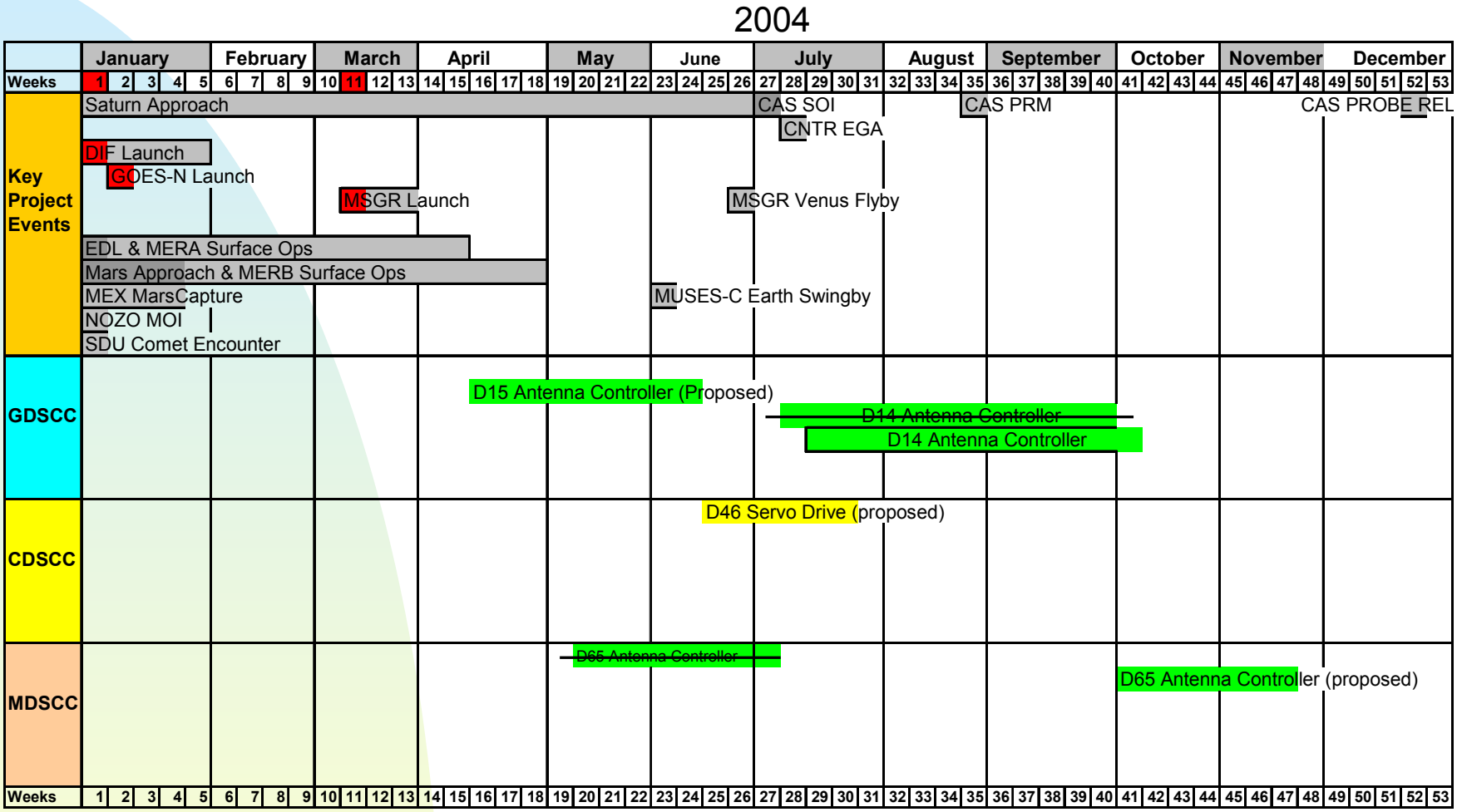
Major Antenna Downtimes



Major Antenna Downtimes and Proposed Changes



Major Antenna Downtimes and Proposed Changes



DSN RESOURCE IMPLEMENTATION PLANNING MATRIX

Station	Subnet	Delivery Date	S-Band Down	S-Band Up	X-Band Down	X-Band Up	20kW X-Band	Ka-Band Down	Ka-Band Up	NSP
DSS-14	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	05/13/03
DSS-15	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	04/10/03
DSS-16	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A
DSS-24	34B1	XXXX	XXXX	XXXX	XXXX	12/23/02	12/23/02	10/01/05	N/A	12/03/02
DSS-25	34B2	XXXX	N/A	N/A	XXXX	XXXX	04/07/03	XXXX	XXXX	04/07/03
DSS-26	34B2	04/02/03	N/A	N/A	04/02/03	04/02/03	04/02/03	04/02/03	N/A	04/02/03
DSS-27	34HSB	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A
DSS-34	34B1	XXXX	XXXX	XXXX	XXXX	XXXX	04/07/03	01/01/05	N/A	04/07/03
DSS-43	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	02/10/03
DSS-45	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	05/03/03
DSS-46	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A
DSS-54	34B1	XXXX	XXXX	XXXX	XXXX	XXXX	09/01/03	08/01/06	N/A	05/13/03
DSS-55	34B2	11/01/03	N/A	N/A	11/01/03	11/01/03	11/01/03	11/01/03	N/A	11/01/03
DSS-63	70M	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	TBD	N/A	04/07/03
DSS-65	34HEF	XXXX	XXXX	N/A	XXXX	XXXX	XXXX	TBD	N/A	02/10/03
DSS-66	26M	XXXX	XXXX	XXXX	N/A	N/A	N/A	N/A	N/A	N/A

XXXX = Capability Currently Exists

N/A = Capability Not Planned

05/09/02

Goldstone Solar System Radar

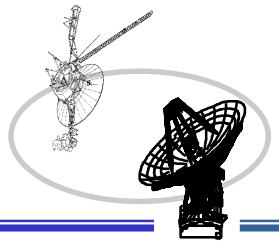
Martin A. Slade

June 20, 2002

NASA Jet Propulsion Laboratory

Joint Users Resource Allocation Planning Committee Meeting

Goldstone Solar System Radar (GSSR)



- **On May 22, 2002, June 02 & June 12, 2002, the combination of Goldstone transmitting and the Green Bank 100-m Telescope (GBT) receiving was successfully used to obtain observations of Mercury in support of MESSENGER Project goals of refining the obliquity of Mercury's pole and the forced 88-day wobble in longitude.**

- **On June 12, 2002, this same combination of antennas was successfully used to diagnose a DSS-14 transmitter pointing problem by raster-scanning Mercury at various offsets in El and cross-El, and receiving the Goldstone CW radar transmissions at the GBT. Offsets of ~ 0.015 deg. were found in both coordinates, indicating that DSS-14 was mispointed by more than half a beamwidth.**

Joint Users Resource Allocation Planning Committee

Radio Astronomy and Special Activities

George Martinez

June 20, 2002

TEMPO
(Time and Earth Motion Precision Observations

- Clock Sync
  - On DOY 163, DSS-15 was saturated by fatal RFI from DSS-14 GSSR asteroid observation for the last half of observation.
  - VLBI/GSSR conflict went unresolved until it was too late to move the clock sync.
  - No problems were reported by DSS-65.
  - Data tapes sent to the JPL Correlator for processing.

Cat M&E

- DOY 160
  - First 70-meter baseline (14/63) Cat M&E in many years.
  - It is anticipated that the combination of 400 MHz X-band Bandwidth, < 20 K System Temperature, and 70-m aperture will produce excellent fringes.
  - Data tapes sent to the JPL Correlator for processing.
  - Processing is pending.

Space Geodesy Program (SGP)

- IVS-CRF-14
  - The International VLBI Service (IVS) Celestial Reference Frame (CRF) sessions are astrometric observations to strengthen the international celestial reference frame (ICRF) in the Southern Hemisphere by observing ICRF defining and candidate sources.
  - No problems were reported by DSS-45.
  - Data tapes sent to Bonn Correlator.

- Metrics
  - 100% of data time utilized.

ulysses

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

http://ulysses.jpl.nasa.gov/

B. Brymer

June 20, 2002

NASA Jet Propulsion Laboratory

ULYSSES

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

- SPACECRAFT OPERATIONS ARE NOMINAL. THE SPACECRAFT IS NO LONGER IN CONTINUOUS VIEW FROM THE NORTHERN HEMISPHERE AND DSN PASSES HAVE NORMAL RISE AND SET. THE SPACECRAFT IS STILL OUT OF VIEW FROM THE SOUTHERN HEMISPHERE

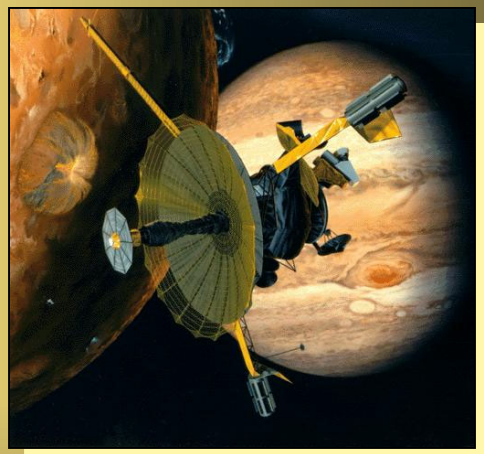
- SPACECRAFT POWER AND THERMAL RECONFIGURATIONS AND INSTRUMENT CALIBRATIONS ARE PERFORMED AS REQUIRED

- SPACECRAFT EARTH POINTING MANEUVERS ARE BEING PERFORMED EVERY 4 DAYS

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

Brad Compton

June 20, 2002



NASA / Jet Propulsion Laboratory

http://galileo.jpl.nasa.gov/

GALILEO MILLENIUM MISSION

ROUTINE ACTIVITIES

- Propulsion maintenance
- Gyro performance test
- Science instrument MROs

GALILEO MILLENIUM MISSION

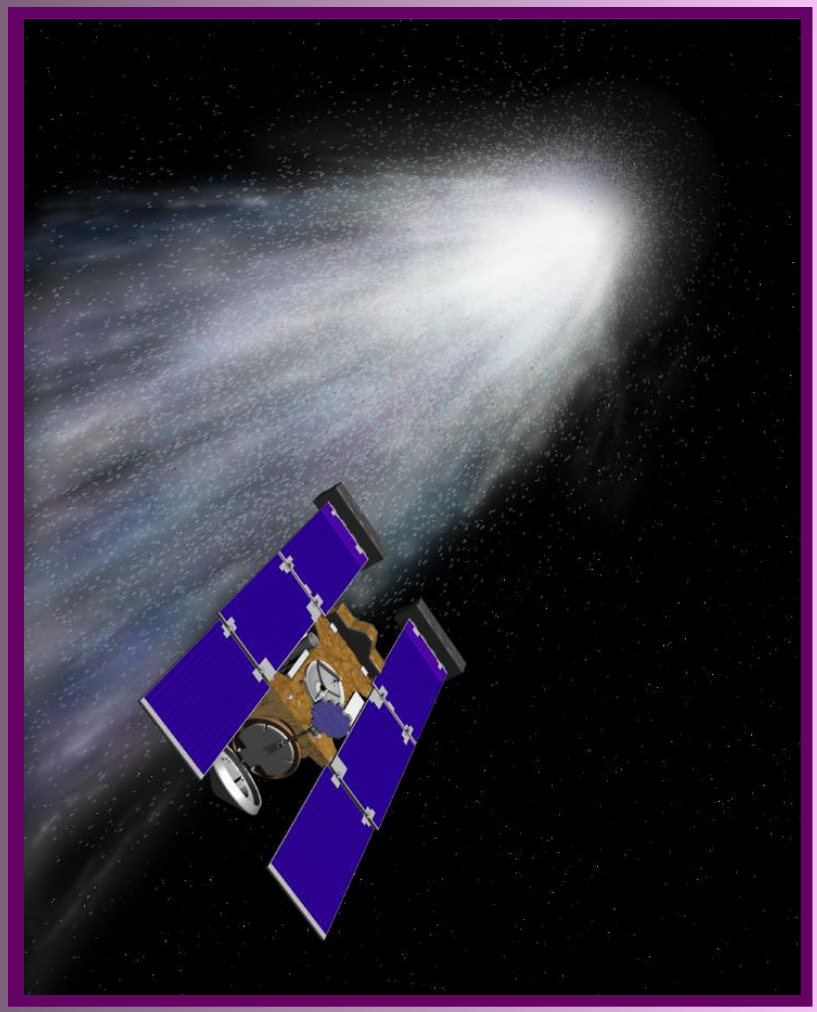
SIGNIFICANT EVENTS

- Magnetometer, Dust Detector and Extreme Ultraviolet data continue to be collected during the cruise part of this orbit.
- The tape recorder was successfully unstuck during a commanded high rate slew. A software monitor stopped the slew shortly after the tape broke free.
- The first in a series of tape motions was executed aimed at conditioning the tape and reducing the possibility of future hard sticks.
- The successful execution of Orbit Trim Maneuver 107.

GALILEO MILLENIUM MISSION

PROJECT PLANS

- Develop and implement a strategy for the long-term operation of the tape recorder.
- Continue collecting MAG, DDS and EUV data.
- Continue routine activities.
- Next encounter Amalthea 34 on 5 November.



STARDUST

JOINT USERS
RESOURCE ALLOCATION
PLANNING COMMITTEE

R. E. Ryan
June 20, 2002

NASA Jet Propulsion Laboratory

http://stardust.jpl.nasa.gov

STATUS

SPACECRAFT IS HEALTHY (6/20/02)

PRESENTLY 1.92 AU from EARTH

00:31:55 RTLT

2.68 AU from SUN

SPACECRAFT IS IN CRUISE

- **BIT RATE IS AT 504 bps (on HGA/34 HEF)**
- **EARTH RANGE CONTINUES TO DECREASE**
- **SOLAR RANGE REMAINS HIGH**
  - **THE SOLAR PANELS ARE PERFORMING WELL**
  - **COMM PERIOD DURATION STILL RESTRICTED TO 3 HOURS**

CURRENT ACTIVITIES

- PLANNING FOR ENCOUNTER TEST AT ANNEFRANK
  - SPACECRAFT TEST LAB HAS BEEN UPGRADED
  - NAV CAM NUCLEUS TRACKING S/W UPGRADE IN WORK
- MMO UPGRADE OF THE GDS F 1.0 SYSTEM (SOLARIS 7.0)
- NEW COMMAND SYSTEM SUCCESSFULLY DEMONSTRATED
- NEW NORCIA REPORTED TWO SUCCESSFUL TRACKS OF STARDUST, ITS FIRST SPACECRAFT, AS PART OF ANTENNA POINTING ACCEPTANCE.
  - TRACKS ON JUNE 7 AND 11 CHECKED THE ACCURACY OF THE POINTING AND TRACKING, WITH GOOD RESULTS.

- IPN SUPPORT HAS BEEN GOOD THIS PAST PERIOD

http://stardust.jpl.nasa.gov

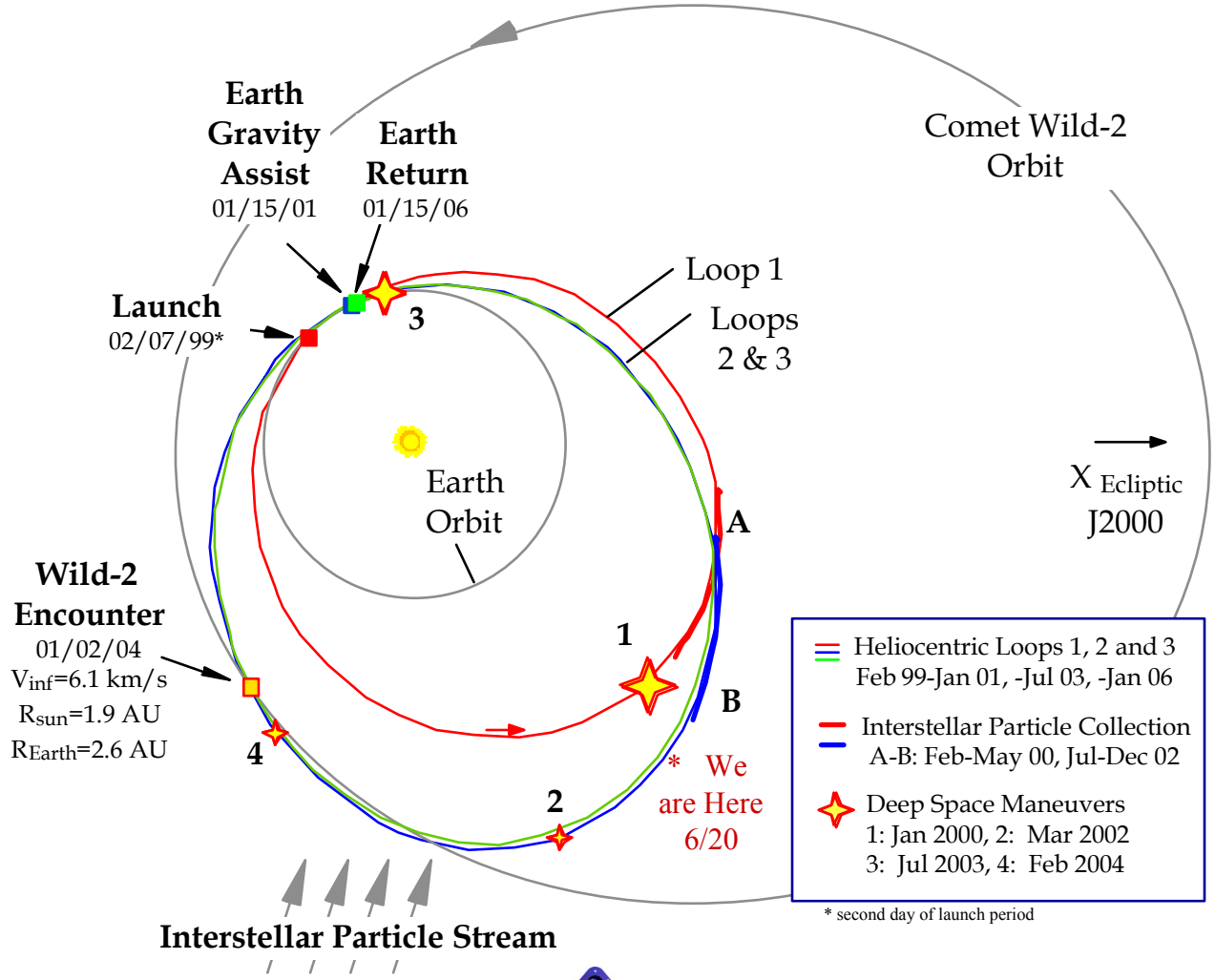
UPCOMING EVENTS

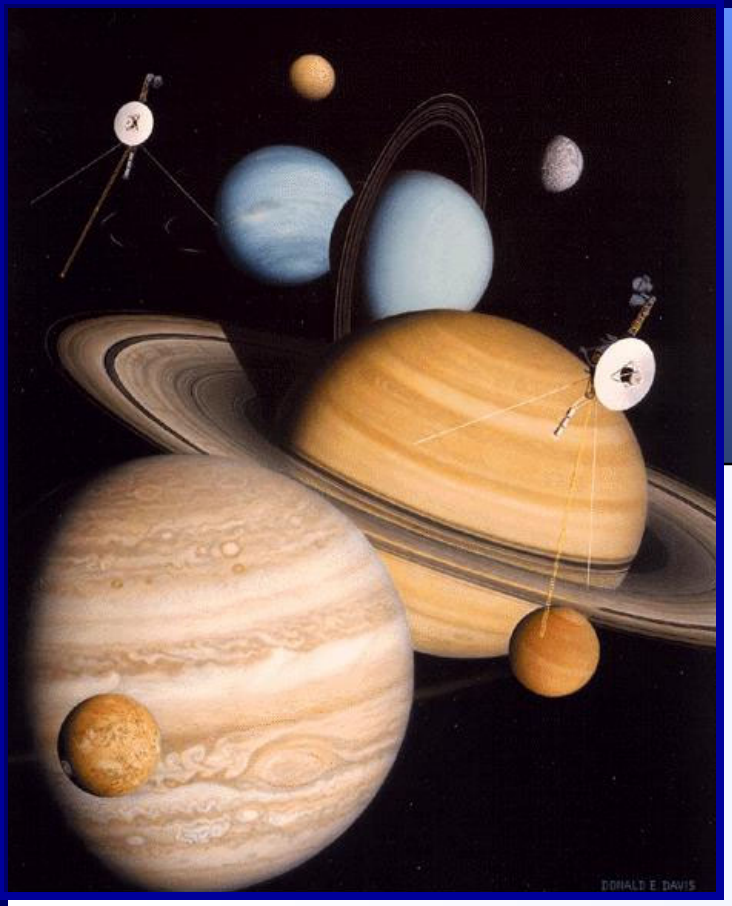
SOLAR OPPOSITION, AUGUST 2

INTERSTELLAR DUST COLLECTION 2
SECOND AEROGEL DEPLOY
AUGUST 5 TO DECEMBER 9, 2002

TCM 7a - SEPTEMBER 18, 2002

ENCOUNTER TEST AT ANNEFRANK
NOVEMBER 2, 2002

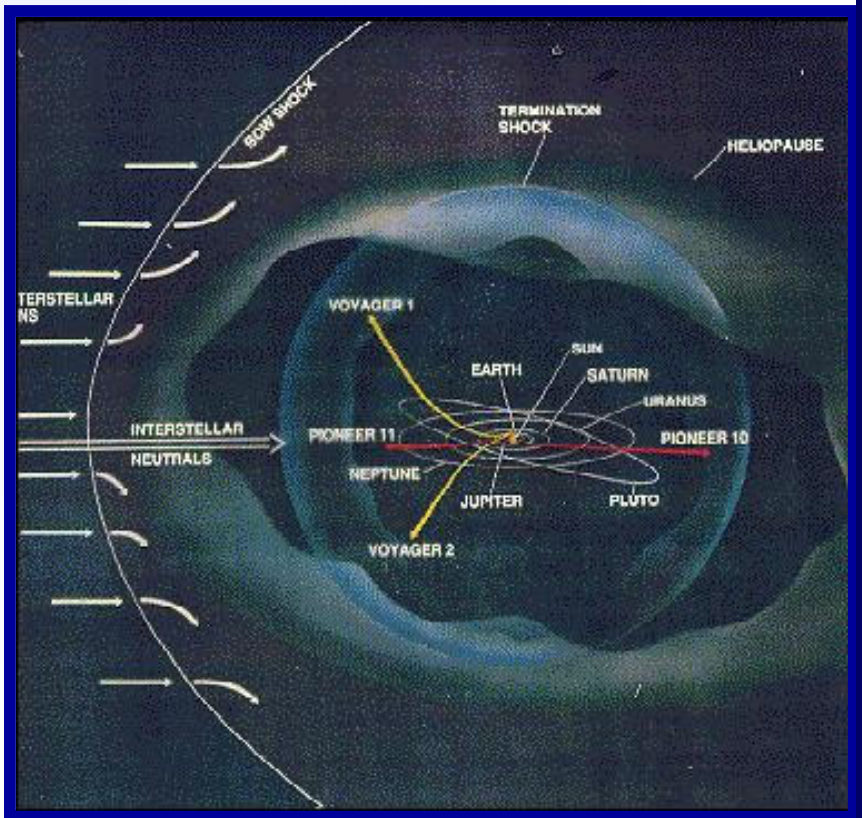

Earth Gravity Assist
01/15/01
Earth Return
01/15/06
Comet Wild-2 Orbit
Launch
02/07/99*
Loop 1
Loops 2 & 3
3
Earth Orbit
X Ecliptic J2000
A
Wild-2 Encounter
01/02/04
Vinf=6.1 km/s
Rsun=1.9 AU
REarth=2.6 AU
1
B
4
2
* We are Here 6/20
Heliocentric Loops 1, 2 and 3
Feb 99-Jan 01, -Jul 03, -Jan 06
Interstellar Particle Collection
A-B: Feb-May 00, Jul-Dec 02
Deep Space Maneuvers
1: Jan 2000, 2: Mar 2002
3: Jul 2003, 4: Feb 2004
* second day of launch period
Interstellar Particle Stream



VOYAGER

FLIGHT OPERATIONS

JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

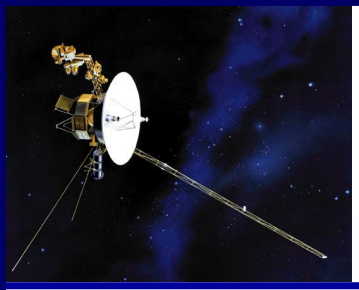


J. C. Hall, Jr.

June 20, 2002

NASA Jet Propulsion Laboratory

http://voyager.jpl.nasa.gov



VOYAGER

FLIGHT OPERATIONS

JPL

FLIGHT SYSTEM STATUS

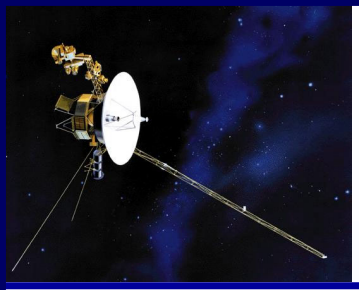
MISSION STATUS

VOYAGER 1

* HELIOCENTRIC DISTANCE – 85.0 AU, RTLT – 23h20m14s
- SPACECRAFT REMAINS HEALTHY
- MAJOR ACTIVITY: PLAYBACK, P/Y THRUSTER SWAP TO BR2, & ASCALS

VOYAGER 2

* HELIOCENTRIC DISTANCE – 67.4 AU, RTLT – 18h26m46s
- SPACECRAFT REMAINS HEALTHY



VOYAGER

FLIGHT OPERATIONS

JPL

GROUND SYSTEM STATUS

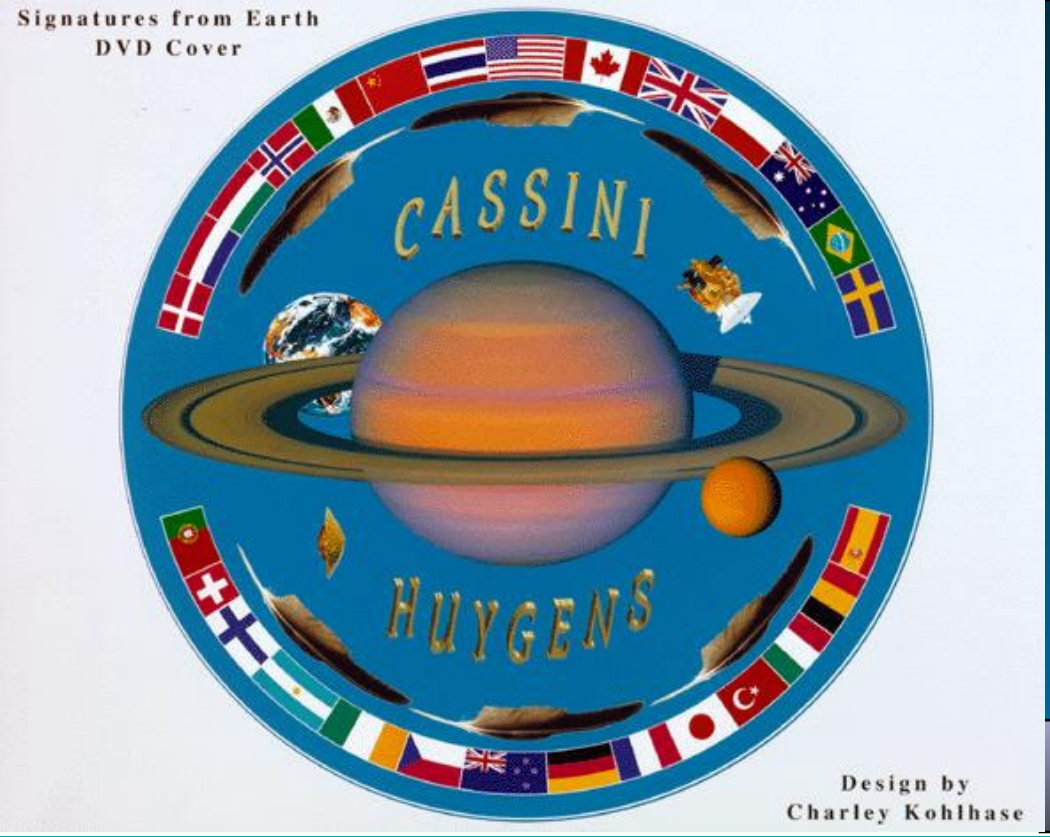
(May 11, 2002 – June 14, 2002)

DSN - OVERALL SUPPORT – GOOD

TOTAL SUPPORT TIME, OUTAGE TIME, % of OUTAGE TIME

S/C	SCHED SUPPORT	ACTUAL SUPPORT	70M TIME	SIGNIFICANT OUTAGE TIME	% of OUTAGE TIME
31	539.1	538.8	115.4	8.8 (1.7)	1.9
32	418.1	418.1	121.0	9.4 (2.3)	2.8

VOYAGER HOMEPAGE - http://voyager.jpl.nasa.gov



CASSINI

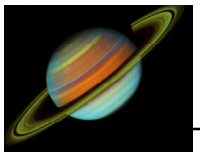
http://saturn.jpl.nasa.gov/cassini/index.shtml

Joint Users Resource Allocation Planning (JURAP) Committee Meeting

Dave Doody

June 20, 2002

NASA / Jet Propulsion Laboratory



Cassini

- In Quiet Cruise Subphase for another few weeks
  - Space Science Subphase of cruise phase begins 8 July 2002
  - Radio Science Superior Conjunction Experiment in progress
    - Cassini's second Prime Mission Science activity
    - This experiment can test GR with a sensitivity 100 times that of previous experiments
    - Investigators: B.Bertotti (U of Pavia), L.Iess (U of Rome), J.Anderson (JPL)
    - Minimum SEP occurs tomorrow, 0.437° (~ 0.19° from solar limb)

- Operations
  - Ka-link, crucial to the RS experiment, suffers from TXR failures (heat exchanger problem)
    - Ka-band science data collection has been 61% of planned quantity (first half of SCE).
    - Ka Translator on S/C has been remaining in its "good" state
  - Each X-band U/L Transfer failure causes over a 2-hour gore in science data
  - NOP still has not been delivered as of mid- RS Superior Conjunction Experiment
  - Tour Science Planning continues
  - Minor S/C instrument adjustments, cals, and anomalies being worked near real time

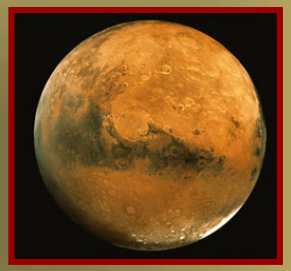
- NISN Full-Cost Accounting
  - Beginning FY '03, Cassini must purchase voice and data services (~ $530K/yr).
  - There are no funds to cover this expense.

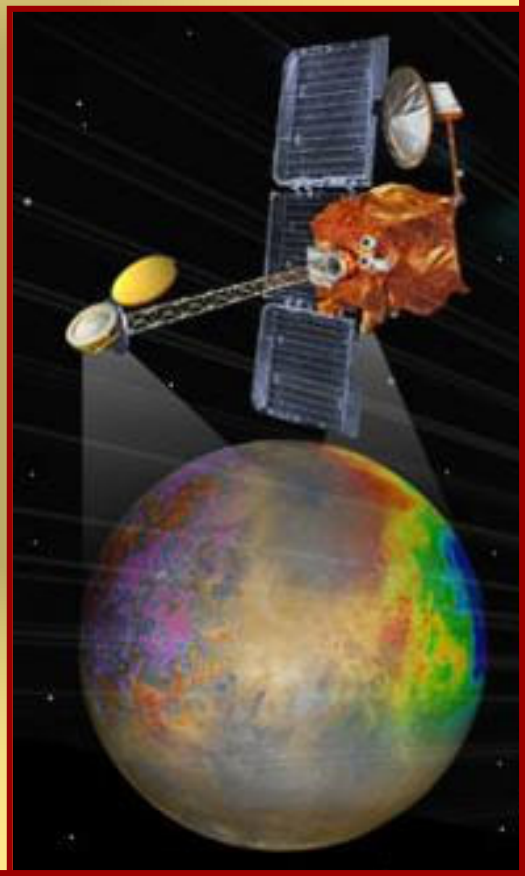
Mars Global Surveyor

Flight Operations Status

Presentation to the

Joint Users Resource Allocation Planning (JURAP) Meeting





E. E. Brower

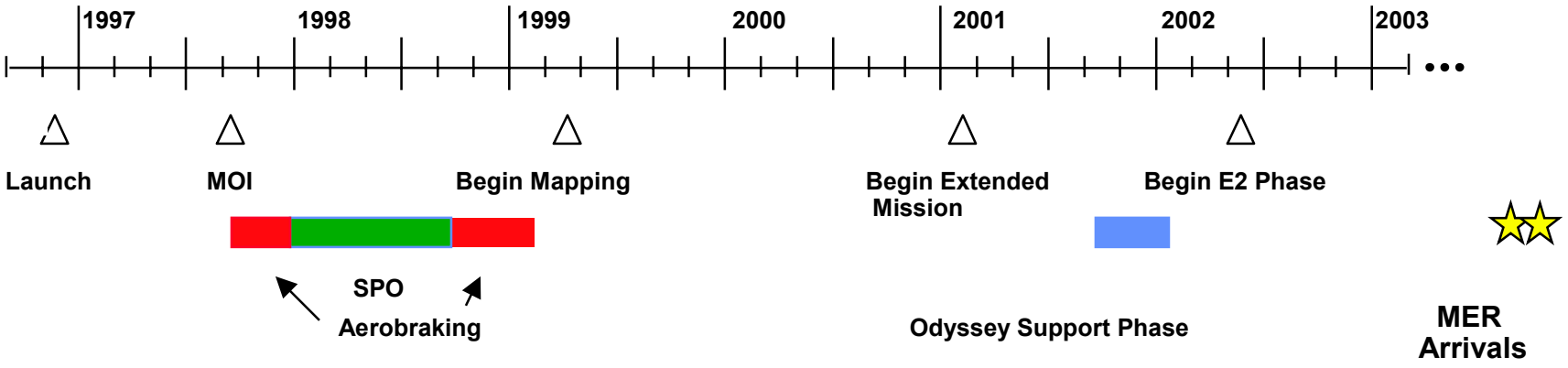
June 20, 2002

http://mars.jpl.nasa.gov/missions/present/globalsurveyor.html

AGENDA

- Project Snapshot
- Recent Events/Accomplishments
- Mission Assessment
- Comments

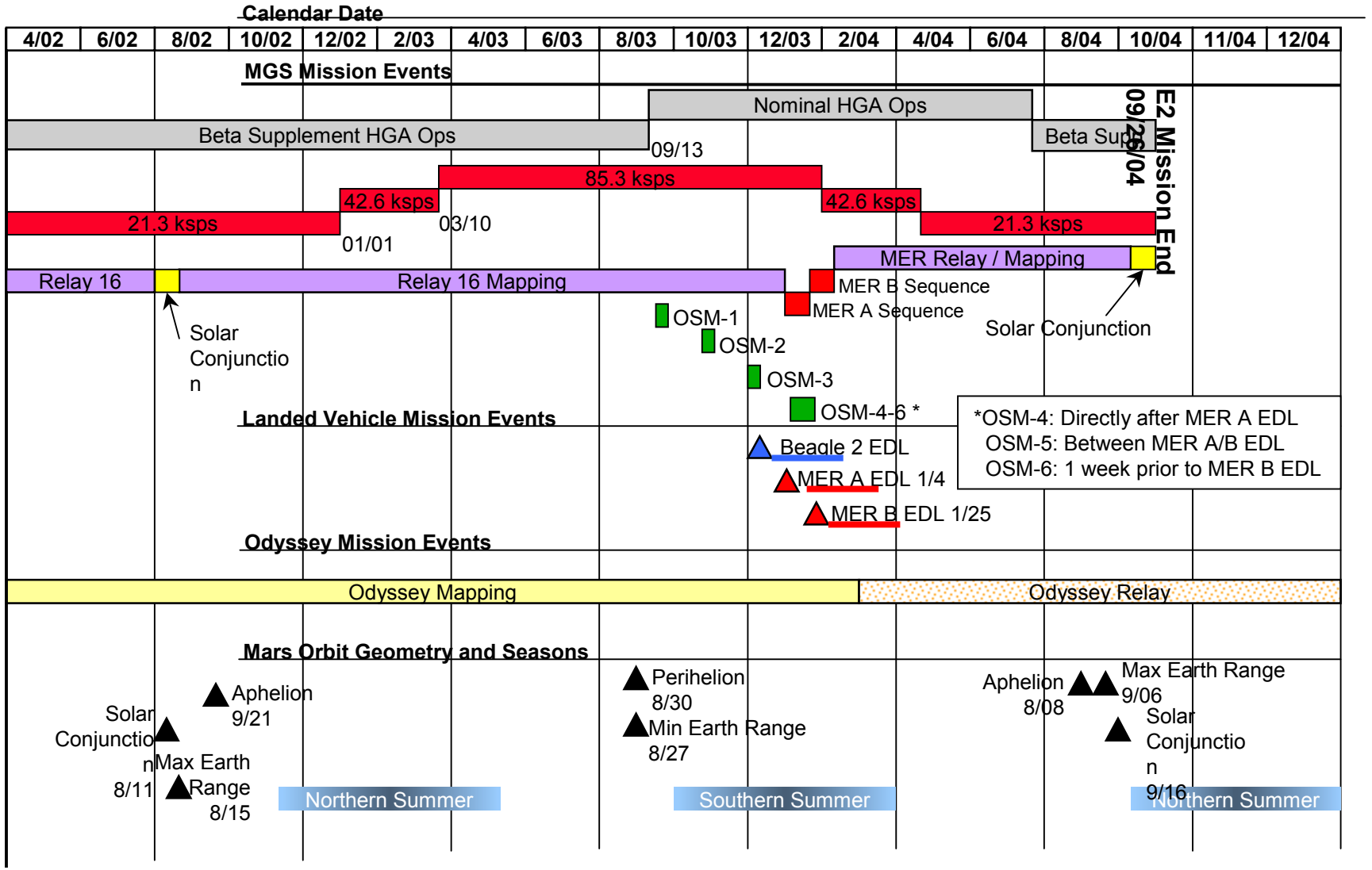
Mars Global Surveyor
Project Snapshot



PHASE NAME	START DATE	END DATE	ORBITS	ORBITE
PRELAUNCH PHASE	**1994-10-12**	**1996-11-06**		
LAUNCH PHASE	**1996-11-06**	**1996-11-07**		
CRUISE PHASE	**1996-11-07**	**1997-09-12**		
INSERTION PHASE	**1997-09-12**	**1999-03-09**	**1**	**1683**
MAPPING PHASE(687DAYS)	**1999-03-09**	**2001-01-31**	**1**	**8505**
EXTENDED MISSION PHASE	**2001-02-01**	**2002-04-22**	**8506**	**13960**
EXTENDED EXTENDED (E2)	**2002-04-22**	**2004-08-19**	**13961**	**29416**

MGS

Mars Global Surveyor
E2 Mission Timeline



MGS

Technical				Schedule				Resources				Programmatic			
FEB	MAR	APR	MAY	FEB	MAR	APR	MAY	FEB	MAR	APR	MAY	FEB	MAR	APR	MAY
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G

Detailed Description: (for items identified as yellow or red)

Technical:

Schedule:

Resources:

Programmatic:

NOTE: This is a rolling 4-month picture

G — No current problem
All commitments can be met

Y — Major problem
Identified solution
Commitment is in jeopardy

R — Major problem
No identified solution
Commitment cannot be met

Events

- Last 3 Months:
  - **Contingency Mode entry after sf update** **FEB 27**
  - **Beta Supplement transition** **MAR 13**
  - **Minimum data rate** **MAR 18 (20kbs)**
  - **Contingency Mode entry flurry event** **APR 1**
  - **End of extended mission (E1)** **APR 22**
  - **E2 Mission start** **APR 22**
  - **E1 first half Archive Complete** **APR 30**
  - **MOC Focus Tests** **MAY 11-22**
  - **MMR** **MAY 15**
  - **Uplink remaining flight software patch** **MAY 25**
  - **Conduct ROTOs from Relay 16 w/o nadir (Successful)** **MAY 25**
- Next 3 Months:
  - **PSG** **JULY 9**
  - **MMR** **JULY 10**
  - **Solar Conjunction** **AUG 11**

Recent Accomplishments

- **Completed transition to Beta Supplement/Relay 16 & tested non-comm. ROTO**
- **Uplinked software patches to prevent STAREX reset nadir induced C-mode entry and processing time gaps**
- **C-mode and C-mode Lessons Learned Reviews held**
- **Completed MGS-MER ICD for EDL/Rover UHF relay support**
-
- **Released Task and Mission Plans for E2 Mission Phase**
- **Received PQ approval for E2 phase**
- **MGS Operations Lessons learned provided to MRO**
- **Successfully executing ROTO imaging from the Relay-16 attitude without returning through Nadir.**
- **Began work on Single Gyro Attitude Determination.**

- **Spacecraft is in good health.**
- **Expect to fulfill most extended mission objectives (complete MER site coverage may become E2 mission objective).**
- **Expect to satisfy MER EDL Requirements.**
- **Chances of operation through 2004 are good.**

- **None**